**Acceleration Practice Problems Name:**

**Directions:** Please answer the following questions using the equation below. Please show your work.

Acceleration = (Final Velocity – Initial Velocity)

Time

1. A roller coaster car rapidly picks up speed as it rolls down a slope. As it starts down the slope, its speed is 4 m/s. But 3 seconds later, at the bottom of the slope, its speed is 22 m/s. What is its average acceleration?

2. A cyclist accelerates from 0 m/s to 8 m/s in 3 seconds. What is his acceleration? Is this acceleration higher than that of a car that accelerates from 0 to 30 m/s in 8 seconds?

3. A car advertisement states that a certain car can accelerate from rest to 70 km/h in 7 seconds. Find the car’s average acceleration.

4. A lizard accelerates from 2 m/s to 10 m/s in 4 seconds. What is the lizard’s average acceleration?

5. A runner covers the last straight stretch of a race in 4 s. During that time, he speeds up from 5 m/s to 9 m/s. What is the runner’s acceleration in this part of the race?

6. You are traveling in a car that is moving at a velocity of 20 m/s. Suddenly, a car 10 meters in front of you slams on its brakes. At that moment, you also slam on your brakes and slow to 5 m/s. Calculate the acceleration if it took 2 seconds to slow your car down.